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MISCELLANEOUS NOTES ON TROPICAL AMERICAN ORCHIDS

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THE following miscellaneous notes regarding Tropical American Orchids include the description of new varieties, nomenclatural changes and amplifications of older species.

The order of genera follows the system proposed by R. Schlechter in *Notizblatt des Botanischen Gartens und Museums Berlin-Dahlem* 9 (1926) 563-591.

Gomphichis Koehleri *Schltr.* var. **minor** C.
Schweinfurth var. *nov.*

Herba quam species typica multo humilior, cum foliis minoribus et vaginis caulinariibus approximatis et sepalis extus conspicue pilosis, non subglabris.

Plant about 6.6 dm. high differing strikingly from the type in its much smaller vegetative size throughout. Roots (not described in the type) fascicled, tuberous, long, simple, lanuginose. Leaves five or six, basal or subbasal, oblong-ligulate, acute, slightly narrowed below, up to 13 cm. long and 1.5 cm. wide. Stem stout, nearly concealed by about eight tubular acute sheaths. Raceme densely many-flowered, about 8 cm. long (with the apical flowers undeveloped in our specimen). Flowers yellowish cream-color, not whitish as in the type.

Sepals conspicuously pilose without. Parts of the perianth apparently closely similar to those of the type.

PERU: Cuzco, Prov. of Paucartambo, Tres Cruces, at 3600 meters altitude, terrestrial in humus of forest glade, October 1941, *C. Vargas* 2257 (TYPE in Herb. Ames No. 66059).

***Altensteinia chiogena* (Schltr.) C. Schweinfurth**
comb. nov.

Aa chiogena Schltr. in Fedde Repert. Beih. 10 (1922) 35; Mansfeld in Fedde Repert. Beih. 57 (1929) t. 134, nr. 524.

***Altensteinia Weberbaueri* (Schltr.) C. Schweinfurth**
comb. nov.

Aa Weberbaueri Schlechter in Fedde Repert. Beih. 9 (1921) 53; Mansfeld in Fedde Repert. Beih. 57 (1929) t. 105, nr. 413.

Since the generic concept *Aa* appears to be inseparable from *Altensteinia*, the above nomenclatural changes are necessary.

***Buchtienia boliviensis* Schlechter** in Fedde Repert. 27 (1929) 34.

This monotypic genus, originally limited to Bolivia, has lately been recognized from Peru. The collection cited is somewhat lower in stature than the type. It shows one leaf about 48.4 cm. long (in contrast to the cited maximum length of 40 cm.), while the lamina, which is oval, rather than elliptic or elliptic-oblongate, has a maximum length of 23.5 cm. (as contrasted with 22 cm.), and a maximum width of 13 cm. (in comparison with 10 cm.). Moreover, the base of the blade appears to be sometimes subcordate and not cuneate as cited. The flowers of the Peruvian collection are noted as rose-colored, whereas those of the Bolivian type are designated as greenish. The parts of the perianth are very similar in

both cases, but the Peruvian collection has the mid-lobe of the lip oblong-ovate and only 3 mm. long, while that of the Bolivian type is lanceolate and 4 mm. long.

PERU: Cuzco, Prov. of Paucartambo, between Mistiana and Keros, at 700 meters altitude, terrestrial in dense shady forest, 1.20 meters tall, July 27, 1948, *C. Vargas* 7381.

Stelis Endresii *Reichenbach filius* in Gard. Chron. (1870) 1373.

Stelis Huebneri Schlechter in Beih. Bot. Centralbl. 42, Abt. 2 (1925) 88.

A study of the description of the Brazilian *Stelis Huebneri* and especially of several Peruvian collections shows that this concept is synonymous with the widely distributed Middle American *S. Endresii* which extends from Mexico through Costa Rica to Panama and Venezuela.

PERU: Huánuco, six km. south of Tingo María, at 738 meters altitude, along road, on tree trunk in moist forested valley, flowers pale green with purplish base, December 2, 1945, *R. J. Seibert* 2257.— Loreto, Upper Marañón River, at mouth of the Santiago, at 160 meters altitude, epiphyte in rain-forest, September 19, 1924, *G. Tessmann* 4087; Above Pongo de Manseriche, on right bank of Río Santiago, at 200 meters altitude, on horizontal limb of tall tree, flowers pale green, December 6, 1931, *Y. Mexia* 6232; Vicinity of Iquitos, at 100 meters altitude, epiphyte in dense forest, flowers mignonette and brownish, January–February 1937, *G. Klug* 10069.

Stelis eublepharis *Reichb.f.* var. ***glabriflora*** *C. Schweinfurth* var. *nov.*

Planta herbae typicae similis sed floribus supra densis glabris differt.

Plant small, with an ascending rhizome (not evident in the type). Secondary stems concealed by 3–4 tubular imbricating sheaths, about 5 cm. or less tall. Leaf solitary, long-petioled, up to 5.9 cm. long; lamina oblong-elliptic or elliptic-oblongate, acute or subacute, gradually cuneate below, up to 4.5 cm. long and 1 cm. wide.

Inflorescences 1-2, shorter than to somewhat exceeding the leaves, up to 8 cm. long, commonly many-flowered, densely flowered above. Floral bracts small, but spreading and conspicuous. Flowers small, more or less secund, glabrous, yellow and purple or bright yellow. Sepals connate below, 3-nerved. Dorsal sepal ovate or broadly ovate, acute, about 3 mm. long and 2.4 mm. wide. Lateral sepals a little smaller, round-ovate, subacute. Petals much smaller than the sepals, transverse, suborbicular-oval, with a fleshy-thickened broadly rounded apex. Lip in natural position triangular-ovate, obtuse, fleshy, with a transverse, convex or subbilobed callus near the base, about 1 mm. long and wide.

PERU: Cuzco, Prov. of Quispicanchis, Cachubamba, Marcapata, at 2800 meters altitude, epiphyte, perianth yellow and purple, December 12, 1943, *C. Vargas 3818* (TYPE in Herb. Ames No. 65225); Prov. of Urubamba, Machu Picchu, at 2050 meters altitude, on rocks, perianth bright yellow, January 8, 1946, *C. Vargas 5544* (this collection consists of a single plant which is much smaller throughout than the type).

Stelis Herzogii *Schlechter* in Fedde Repert. Beih. 12 (1913) 484; Mansfeld in Fedde Repert. Beih. 58 (1930) t. 20, nr. 80.

This concept, which has been noted as occurring only in Bolivia, has now been extended to Peru by the collection cited below. These specimens show some discrepancies from the description. The inflorescences vary from one to eight, rather than from three to five, and are either shorter or longer than the leaf, reaching a length of 9 cm., rather than 5 cm. as cited. The dorsal sepal is commonly 1.5 mm. long, instead of about 1 mm. long, and the lip is subquadrate-obovate, rather than rhombic-oval, as specified.

PERU: Cuzco, Prov. of Quispicanchis, Hda. Itio, Marcapata, at 2000 meters altitude, in sunny rocky places, flowers yellow, January 27, 1943, *C. Vargas 3114*.

Stelis Koehleri *Schlechter* in Fedde Repert. 10 (1912) 386; Mansfeld in Fedde Repert. Beih. 58 (1930) t. 21, nr. 82.

On the basis of additional collections referable to this species, it appears advisable to point out several discrepancies from the original description. These specimens show stems as long as 8.5 cm., whereas the description cites a maximum length of 4 cm. The leaf, which is described as oblanceolate, appears to be rarely narrowly obovate, and it attains a length of 9.5 cm., rather than the cited maximum of 7.5 cm., and a width of 2.5 cm., as contrasted with 1.5 cm. The flowers are often markedly larger than specified, the dorsal sepal attaining a length of 6.7 mm., rather than the cited 3 mm. The lip, when viewed from the front, is transversely ovate, broadly rounded or rounded-truncate in front commonly with a minute apicule in the middle and with the basal portion occupied by a transverse fleshy bilobed callus. As described and drawn, the lip is semiorbicular with a truncate apex and a transverse hollow in the middle.

PERU: Huánuco, Mito, at about 2760 meters altitude, in dense mats on dirt ledges of shrubby southwestern slopes, July 8-22, 1922, *Macbride & Featherstone 1394*; Same locality, altitude and habitat, April 8-18, 1923, flowers dark reddish yellow or deep yellow, scentless, *J. F. Macbride 3284*.

Stelis leucopogon *Reichenbach filius* Beitr. Orch. Centr.-Am. (1866) 95, t. 9, figs. T, 1-4.

This concept, which is frequent in Central America from Guatemala to Panama, is now recorded from Peru.

PERU: Huánuco, Muña, at about 2150 meters altitude, in dry woods, *Macbride 4195*.—San Martín, on ridge east of Tingo María, at 625-1100 meters altitude, in jungle, *Allard 22201, 22595*.

Stelis Lindenii *Lindley* Orch. Linden. (1846) 3, no. 17; Fol. Orch. *Stelis* (1858) 5, no. 29.

This species, which was described from Venezuelan

material, has been collected in three Peruvian localities.

While the type collection consists of an incomplete secondary stem without any indication of a rhizome, all three of the Peruvian specimens show a creeping rhizome with more or less remote stems.

PERU: Cuzco, summit of Ccochayoc, at 1000 meters altitude, February 21, 1931, *C. Bues s.n.*; Prov. of Convención, Hda. Potrero, Sapan Sachayocc, at 2200 meters altitude, epiphyte in forest, flowers white, March 5, 1942, *C. Vargas 2555*; Machu Picchu, at about 2100 meters altitude, May 22, 1915, *O. F. Cook & G. B. Gilbert 866*.

***Stelis phaeomelana* Schlechter** in Fedde Repert. 27 (1929) 45.

Whereas the type of this species came from Bolivia, a Peruvian collection referable to this concept has recently appeared.

The plants forming this collection show some discrepancies from the description and from other examples of the type. One stem is 22 cm. long, in comparison with the cited length as about 15 cm. The lamina of one leaf is 16 cm. long, as contrasted with the attributed maximum length of 14 cm. The inflorescences appear to be always solitary, not only in this Peruvian material, but also in all of the plants comprising the isotype Bolivian collection in the Ames Herbarium, despite the statement that the species always has two inflorescences. The flowers appear to be slightly larger than those of the type.

PERU: Cuzco, Prov. of Quispicanchis, region of Murayaco and Marcapata, at 1960 meters altitude, on rocks in sunny places, flowers yellowish green, January 28, 1943, *C. Vargas 3134*.

***Stelis polycarpa* Schlechter** in Fedde Repert. 27 (1929) 46.

Although this concept has previously been noted only as a native of Bolivia, several Peruvian collections are now available. One of these collections shows a dorsal

sepal conspicuously larger than that of the type, measuring 4.7 mm. long.

PERU: Cuzco, Prov. of Paucartambo, S. Pedro to S. Isabel, at 1350 meters altitude, on trunks of old trees, December 6, 1947, *C. Vargas 6785*.—Huánuco, left bank of Río Guallaza, above Cayumba, at 805 meters altitude, in small colonies on forest tree-trunks, October 19, 1936, *Y. Mexia 8313a*.—Loreto, Pumayacu, between Balsapuerto and Moyobamba, at 600–1200 meters altitude, epiphyte in forest, August–September 1933, *G. Klug 0.18*.

***Stelis santiagoensis* Mansfeld** in Notizbl. Bot. Gart. Berlin 10 (1928) 239.

Several discrepancies from the description were noted from an examination of a photograph and a flower from the cotype in the Ames Herbarium. The leaf is somewhat larger than specified—up to 13 cm. long and 1.9 cm. wide, as compared with 9–12 cm. long and 1.2–1.8 cm. wide. The inflorescence appears to have a distinct and rather elongate peduncle below the raceme, instead of bearing flowers almost to the base. The dorsal sepal has a maximum length of 3 mm., rather than 2.1 mm. The lip is strictly simple, instead of shortly trilobulate, and is about 6 mm., instead of 3 mm., long. The number of this cotype collection is 4086, rather than 4068.

***Stelis simacoensis* Schlechter** in Fedde Repert. 27 (1929) 47.

This concept was described from Bolivian material, but a Peruvian collection is now available. In these specimens the stems are 2–8 cm. long, rather than 3.5–5 cm. long as cited. The lamina of the leaf, which is sometimes oblong-elliptic rather than oblong-ligulate, has a maximum length of 8.4 cm., instead of 6.5 cm., and the petiole reaches a length of 1.8 cm., rather than 1.3 cm. as stated. The callus of the lip appears to be near the apex, instead of nearly in the middle.

PERU: San Martín, Zepelacio near Moyobamba, at 1200–1600 meters altitude, epiphyte in forest, flowers cream-color, January 1934, G. Klug 3520.

Lepanthes tracheia *Reichenbach filius* in Flora 69 (1886) 557.

A Peruvian collection, which has been referred to this Colombian species, is characterized as follows.

Plants very small, 4 cm. or less tall, as compared with 2.6–6.2 cm. high as shown by a drawing of *L. tracheia* from the Reichenbach Herbarium. Leaf suborbicular-ovate (rarely triangular-ovate), with a subcordate base, rather than elliptic-ovate as shown in the drawing, the size being about 1.2 cm. long and 9–10 mm. wide, as compared with 1.5–2.5 cm. long and 9–17 mm. wide in the figure. The sepals appear to be very similar to those depicted in an analysis of *L. tracheia* from the Reichenbach Herbarium. The petals are ciliate and pubescent (not depicted nor described) and the posterior lobe is oblong-lanceolate or linear-lanceolate and is narrower than shown in the analysis.

PERU: Cuzco, Prov. of Paucartambo, San Pedro to Sta. Isabel, at 1350 meters altitude, on old tree trunks, flowers reddish wine-color, C. Vargas 006783.

Lepanthes trachysepala *Schlechter*. in Fedde Repert. Beih. 7 (1920) 100; Mansfeld in Fedde Repert. Beih. 57 (1929) t. 34, nr. 130.

A Peruvian collection, consisting of a single specimen, has been referred to this Colombian species.

Plant about 25 cm. high, as in the type. Stem about 14 cm. long, contrasted with 5–7 cm. long as described. Leaf oblong-elliptic, acute and 4.9 cm. long, as compared with oblong, obtuse and 2.5–3.5 cm. long in the type. Raceme about 8-flowered, rather than 8- to 12-flowered. Flowers red with yellow spots, as contrasted with pale brown. Sepals about 9 mm. long, only 7 mm.

long in the description. Lateral sepals long-acuminate, rather than acute or subacute. Petals 6.5, not 5.5, mm. long. Lamina of lip not embracing the column at the base, when expanded, triangular-ovate, not lanceolate-triangular as described.

PERU: Cuzco, Prov. of Urubamba, near Wenner Gren ruins, at 3400–3600 meters altitude, in dense wet dark forest with much fog and rain, *R. D. Metcalf* 30769.

Pleurothallis citrina *Schltr.* var. **elliptica** *C. Schweinfurth* var. *nov.*

Planta major, caulibus altioribus, foliorum lamina elliptica vel oblongo-elliptica, inflorescentiis duplo longioribus et labello majore a specie differt.

Stems more or less arcuate, up to 15 cm. long, with several (up to 7), close, tubular sheaths. Leaf short-petioled, 4.1–11.5 cm. long; lamina elliptic to oblong-elliptic, 3.5–10 cm. long, up to 2.8 cm. wide. Inflorescences about 4–6 cm. long. Flowers yellow, very similar to those of the type. Lip somewhat larger than that of the species, oblong, about 3 mm. long.

PERU: Puno, Prov. of Carabaya, Ollachea (abajo), at 2500 meters altitude, on rocks, December 30, 1947, *C. Vargas* 6936 (TYPE in Herb. Ames No. 65081).

Lepanthopsis microlepanthes (*Griseb.*) *Ames* in Bot. Mus. Leaflet. Harvard Univ. 1, No. 9 (1933) 24, fig.

Pleurothallis microlepanthes Grisebach Fl. Brit. W. Ind. Isl. (1864) 610; Cogniaux, in Urban Symb. Antill. 6 (1909) 430; Fawcett & Rendle Fl. Jam. 1 (1910) 65.

Lepanthes Leonii C. Schweinfurth in H. Léon. Fl. de Cuba 1 (1946) 362.

A recent review of the concept, *Lepanthes Leonii*, which was described in Dr. Hermano Leon's Flora de Cuba, has indicated that this little orchid is referable to

the older *Lepanthopsis microlepanthes* (Griseb.) Ames. The complete synonymy appears above. This species occurs in Cuba and Jamaica.

Malaxis termensis (Kränzl.) C. Schweinf. var. **elata** C. Schweinfurth var. nov.

Herba altitudine majore, foliis late ovatis conspicue acutis, floribus minoribus a specie differt.

Plant apparently with a creeping rhizome. Stems about 43 cm. high including the rachis of the inflorescence, only slightly thickened below. Lower part of stem concealed by two or more tubular sheaths of which the upper are elongate and leaf-bearing. Leaves 2, subopposite, broadly ovate, sharply acute, appearing sessile, but abruptly contracted into sheaths, about 9 cm. long, up to 6.1 cm. wide, about 14–16.5 cm. above the base. Inflorescence abbreviated, subumbellate, many-flowered. Flowers very small, membranaceous, greenish. Sepals with strongly revolute sides. Dorsal sepal oblong-lanceolate, obtuse, about 2.3 mm. long and 1 mm. wide. Lateral sepals obliquely oblong-ovate, obtuse, subequally long with the dorsal sepal, but wider (about 1.3 mm.). Petals linear, obtuse, shorter than the sepals. Lip suborbicular-ovate, abruptly narrowed to a blunt apicule, with a large 2-celled concavity below, about 1.7 mm. long and slightly broader. Column minute.

PERU: Amazonas, Prov. of Bongara, Pomocochas, at about 2400 meters altitude, terrestrial in ridge forests above Quebrada Santa Rosa, northeast across Lake Pomocochas, April 4, 1944, *W. H. Hodge 6152* (TYPE in U.S. Nat. Arb. No. 183663).

Epidendrum cyperifolium C. Schweinfurth nom. nov.

Epidendrum microtos Reichenbach filius var. *grandiflorum* C. Schweinfurth in Bot. Mus. Leaflet. Harvard Univ. 11 (1943) 98.

? *Bletia ensiformis* Ruiz & Pavon Syst. Veg. (1798) 230.

Renewed study of the specimen previously considered to be a variant of the inadequately described *Epidendrum microtos* shows that it should be elevated to specific rank. The reasons for this course of action are: (1) the plant under consideration is represented by complete specimens (whereas *E. microtos* was described only from a flowering panicle); (2) the flowers of this plant are larger with oblanceolate and acute (not spatulate and obtuse) petals; and (3) the lip is truly emarginate (not rounded in front).

Judging from a photograph of *Bletia ensiformis* from the Pavon Herbarium, it seems highly probable that the latter concept is referable to this species. However, an examination of the flower is impossible, so the definite reduction is open to question.

***Epidendrum inamoenum* Kränzl. var. robustum C. Schweinfurth var. nov.**

Herba caulibus et foliis multo robustioribus et floribus majoribus et petalis latioribus sepalis subaequantibus a specie differt.

Plant up to 2 m. high (according to the collector), simple or branched. Sheathed stems 1–1.3 cm. in diameter, leafy. Leaves oblong to oblong-elliptic, rounded and minutely bilobed at the apex, slightly narrowed at the semiamplexicaul base, up to 15 cm. long and 3 cm. wide. Raceme recurved or nodding, densely several- to many-flowered, 3–6 cm. long, without any subtending spathe. Flowers larger than those of the type, pale yellow or pale greenish yellow. Dorsal sepal elliptic-lanceolate, acute, about 17 mm. long and 7–8.5 mm. wide. Lateral sepals obliquely elliptic-ovate, complicate-mucronate, about 18–20 mm. long and 8–9 mm. wide. Petals ellip-

tic to oval, subacute to rounded at the apex, about 14–16 mm. long and 7–10 mm. wide. Lip adnate to the column up to its apex, suborbicular-ovate in outline, simple to lightly but distinctly trilobed at the apex, cordate at base, about 12–14 mm. long in the middle (from the cordate base to the rounded or triangular-acute apex) and 15–17 mm. wide; disc bicallose at base, with the central longitudinal portion thickened. Column very short and stout.

PERU: Cuzco, Prov. of Urubamba, "Kil. 97–108, F. C. C. S. A." at 2200 meters altitude, on rocky slope, May 16, 1943, *C. Vargas* 3408 (TYPE in Herb. Ames No. 65062); Machu Picchu, at 2040 meters altitude, rocky slope, January 9, 1946, *C. Vargas* 5551.

Epidendrum longirepens (*C. Schweinf.*) *C. Schweinfurth* comb. nov.

Epidendrum Schlechterianum Ames var. *longirepens*
C. Schweinfurth in Bot. Mus. Leaflet. Harvard Univ.
11 (1943) 115.

Renewed study of the plant which I described as *Epidendrum Schlechterianum* var. *longirepens* has convinced me that this concept is worthy of specific rank. While it certainly is allied to *E. Schlechterianum*, this entity is widely divergent by reason of its long creeping rhizome, its very small leaves, its petals which are nearly or quite as broad as the sepals (not markedly narrower) and its lip which is rounded or only slightly (not deeply) cordate at the base.

Epidendrum pachytilum *Kränzlin* in Fedde Repert. 1 (1905) 184.

Epidendrum aquaticoides *C. Schweinf.* var. *pusillum*
C. Schweinfurth in Bot. Mus. Leaflet. Harvard Univ. 11 (1943) 82.

Recent study of material referable to *Epidendrum pachytilum* shows that this concept differs in certain respects from the original description.

Examination of a photograph of the type of *E. pachychilum* shows that the floral bracts are rather conspicuous and triangular-ovate, not "subnullae" as described. Moreover, the sepals appear to be ovate-elliptic, rather than "oblonga" as noted. In the specimens examined, the somewhat immature flowers have sepals only about 8-9 mm. long, rather than 10 mm. long as described.

It now appears that the concept previously described as *Epidendrum aquaticoides* C. Schweinf. var. *pusillum* is referable to *E. pachychilum*.

PERU: Cuzco, Prov. of Urubamba, near Wenner Gren ruins, at 3400-3600 meters altitude, in open soaking sphagnum bog with much fog and rain, perianth fleshy, orange with faint red on outside of sepals, August 5-6, 1942, *R. D. Metcalf 30575*; On trail from Puyupata to Sayacmarca, epiphytic, at 3600 meters altitude, August 5, 1942, *C. Vargas 2894* (TYPE of *E. aquaticoides* var. *pusillum*); Same data, at 3650 meters altitude, June 23, 1948, *C. Vargas 7257*.

***Epidendrum refractoides* C. Schweinf. var. humile C. Schweinfurth var. nov.**

Herba statura minore et pedunculi spatha unica vel nulla, et inflorescentia racemosa (non paniculata) et labelli lobo medio magis separato a specie differt.

Plant small, stout, epiphytic, up to about 19 cm. high. Stems (sometimes decumbent and rooting at base), stout, entirely concealed by imbricating leaf-sheaths or the fibers of sheaths, about 10 cm. long. Leaves apparently eleven or less, approximate, elliptic-ovate, obtuse to rounded at the apex, amplexicaul at the sessile base, up to 5.1 cm. long and 2.5 cm. wide (next to the uppermost blade largest), ascending-spreading. Inflorescence solitary, terminal, erect, about 9.5 cm. or less tall; peduncle short, about 4 cm. or less long, usually bearing a conspicuous, conduplicate, erect spathe about 2.5 cm. long; raceme rather loosely several- (7- or more) flowered, with the rachis about 6 cm. or less long. Floral

bracts lanceolate, acuminate, somewhat exceeding half of the glabrous pedicellate ovary. Flower rather small, subfleshy, greenish yellow. Dorsal sepal lanceolate-elliptic or elliptic-ob lanceolate, complicate and apiculate at the apex, about 11–12.2 mm. long and 4.9–5 mm. wide, 3-nerved. Lateral sepals obliquely and broadly lanceolate-elliptic, acute, dorsally carinate, obliquely inserted at the base of the column, about 11–12.5 mm. long on the posterior margin and 5.1 mm. wide. Petals linear-ob lanceolate or ob lanceolate, obtuse or subacute, slightly oblique, 1- or obscurely 3-nerved, about 10.1–11 mm. long and 3 mm. wide. Lip adnate to the column up to its apex; lamina 3-lobed with the lateral lobes up-curved, cordate at base, about 6–6.5 mm. long in the center and 8–10.2 mm. wide across the lateral lobes when expanded; lateral lobes suborbicular-oval, with irregular or lobulate margins; mid-lobe distinct, elliptic-subquadrate, truncate and lightly retuse in front, with the center longitudinally thickened; disc at base with a pair of prominent complanate obliquely semiobovate calli. Column short and stout, dilated above in front, about 6.5–7 mm. high at the back.

PERU: Apurimac, Prov. of Abancay, “bosques de Ampay,” epiphyte, July 1938, *C. Vargas 2050* (TYPE in Herb. Vargas).—Cuzco, Prov. of Calca, in the vicinity of the town of Lares, on rocks at 3200 meters altitude, “leaves purple,” August 30, 1934, *C. Vargas 3618*.

Epidendrum Schlimii *Reichenbach filius* in *Linnaea* 22 (1849) 838; Lindley *Fol. Orch.* *Epidendrum* (1853) 64, no. 201, non *E. Schlimii* Lindley *Fol. Orch.* *Epidendrum* (1853) 74, no. 234.

Epidendrum tenellum Lindley *Fol. Orch.* *Epidendrum* (1853) 44, no. 138.

The identity of the concept *Epidendrum tenellum* with the earlier *E. Schlimii* has already been pointed out by Reichenbach f. in *Walp. Ann.* 6 (1862) 361.

The Peruvian collection cited below agrees well with *E. Schlimii* and thus extends the known range of this species from Venezuela. In this collection the flexuous inflorescence consists of remote abbreviated racemes and is thus to be described as a panicle.

PERU: Huánuco, Muña, at about 2150 meters altitude, epiphyte, May 23-June 4, 1923, *Macbride 3966*.

***Epidendrum Schlimii* Reichb.f. var. *gracillimum* (Reichb.f. & Warsc.) C. Schweinfurth comb. nov.**

Epidendrum gracillimum Reichenbach filius & Warscewicz in All. Gartenz. 22 (1854) 314.

Judging by a record of *Epidendrum gracillimum* from the Reichenbach Herbarium in Vienna and by a Peruvian collection (*Vargas 3268*) which is referable to this concept, this entity appears to be merely a variety of *E. Schlimii*. It has stems (including the rachis of the inflorescence) about 10-19 cm. tall, while those of *E. Schlimii* are about 10 cm. or less tall. The leaves are commonly about 4.5 cm. or more long, whereas those of *E. Schlimii* appear to be about 3.4 cm. or less in length. The inflorescence of *E. gracillimum* has distinct and relatively elongate branches, contrasted with the abbreviated and congested branches of *E. Schlimii*. A more significant discrepancy resides in the lip which is strictly simple in *E. Schlimii* and is distinctly 3-lobed with a short transverse bilobed mid-lobe in typical *E. gracillimum*. *Vargas 3268*, however, while otherwise coinciding with the type of the latter concept, has a lip which is simple with irregular margins or is very obscurely 3-lobed.

PERU: Cuzco, Prov. of Convención, "alturas de Pintobamba," at 2300 meters altitude, epiphyte, in small damp forest, perianth pink, March 3-4, 1943, *C. Vargas 3268*.

***Epidendrum subreniforme* C. Schweinf. var. *ramosum* C. Schweinfurth var. nov.**

Herba caule pluribus cum ramis strictis, foliis longiori-

bus, floribus minoribus roseo-purpureis cum labello exapiculato a specie differt.

Plant with stem consisting of several short strict branches, entirely concealed by tubular sheaths which bear leaves except at the base of the branches. Leaves elliptic or oblanceolate-oblong, acute, sessile at the cuneate base, up to 6.5 cm. long and 1.9 cm. wide. Inflorescence about 3.5 cm. long, erect and shortly recurved at the apex; peduncle about 2 cm. long, bialate, with one small infundibuliform bract; raceme loose, 5-flowered, with a fractiflex rachis. Flowers rather large, rose-purple, with spreading segments. Dorsal sepal elliptic, acute, minutely apiculate, 5-nerved, 1.5 cm. long, about 5.7 mm. wide. Lateral sepals semielliptic or obliquely elliptic-lanceolate, acute, 5-nerved, with a deep keel near the apex, about 1.53 cm. long and 6.1 mm. wide near the middle. Petals linear-oblanceolate, oblique, subacute to obtuse, about 1.43 cm. long and 3.2 mm. wide above. Lip much larger than the other segments, adnate to the column up to the apex of the latter; lamina simple or nearly so, semiorbicular-reniform, very slightly indented or subretuse in the middle of each side, narrowed above to a broad subtruncate and lightly retuse apex, without any apicule, ecallose, deeply cordate at the base, about 1 cm. long in the middle and 2.3 cm. wide. Column short, stout, much dilated above in front, about 8 mm. long at the back, extended on each side into an obliquely semiorbicular auricle.

PERU: Cuzco, Prov. of Convención, Sahuayaco, epiphyte at 1600 meters altitude, January 17, 1947, *C. Vargas* 6295 (TYPE in Herb. Ames No. 63449).

Epidendrum vincentinum *Lindley* in Hook. Journ. Bot. 3 (1841) 88, 309, t. 11; Cogniaux in Urban Symb. Antill. 6 (1910) 526.

Epidendrum serricardium Schlechter in Fedde Rept. Beih. 19 (1923) 218.

This concept, which was originally described from St. Vincent, was reported by Cogniaux (l.c.) from Guadeloupe, Dominica and Martinique. It was subsequently found on Trinidad by W. E. Broadway and very recently was collected on the lower slopes of Mt. Britton, Toquillo, Puerto Rico by D. S. Correll and H. F. Winters.

A surprising extension of range is shown by a Peruvian collection of *E. vincentinum* from Cuzco, Province of Paucartambo (C. Vargas 006793).

The Costa Rican *Epidendrum serricardium* is obviously reducible to this concept, the description being almost an exact counterpart of that of *E. vincentinum*.

The flowers of all the material examined, whether from the West Indies, Costa Rica or Peru, appear to be somewhat larger than those described for *E. vincentinum* and the disc of the lip appears to have commonly one to three more or less distinct keels. The color of the flowers varies from pale green or greenish yellow, often tinged with bronze, to russet or mahogany-red and pale yellow, and the leaves are sometimes noted as violet or purple.

***Dichaea muricata* (Sw.) Lindl. var. *maculata* (Poepp. & Endl.) C. Schweinfurth comb. nov.**

Dichaea maculata Poeppig & Endlicher Nov. Gen. ac Sp. 2 (1838) 3, t. 105, figs. 1-6; Cogniaux in Martius Fl. Bras. 3, pt. 6 (1906) 489.

The concept *Dichaea maculata*, which is limited to Peru, has been considered to be amply distinct from *D. muricata*, which was originally described from the West Indies, for two reasons. First the leaves of *D. maculata* are seen to be distinctly ciliolate near the apex, whereas those of *D. muricata* appear to be entire or nearly so at the apex. Secondly, the lip of *D. maculata* was described and figured as provided with a relatively long linear claw with the lamina rounded in front, while the lip of *D.*

muricata is only shortly clawed or has a cuneate base with the lamina distinctly acute or apiculate in front.

The first character (that of the ciliation of the leaves) is apparently a stable feature, the leaves of the Peruvian material referred to *D. maculata* being always more or less ciliolate on close examination, whereas those of the specimens referred to *D. muricata* appear to be almost invariably entire.

On the other hand, the Peruvian specimens which have these ciliolate leaves have a lip which varies from short-clawed to elongate-cuneate at the base and the apex of the lamina is invariably apiculate (sometimes with a rounded forward margin) or even sharply acute.

It seems, therefore, that the lip of *D. maculata* is rather polymorphic (as it is in typical *D. muricata*), but it appears probable that it is always more or less strongly apiculate—a character that may readily have been overlooked in the typical specimen. Since, however, this concept was described and figured with a linear-clawed lip, it may be well to recognize this tendency.

For purposes of simplification in these closely allied concepts, therefore, it seems reasonable to consider *D. maculata* as a variety of the older concept *D. muricata* (based on *Cymbidium muricatum* Sw.) of which an excellent description and floral analysis is given in Fawc. & Rendle Fl. Jam. 1 (1910) 137, t. 30, figs. 22–25. Thus we segregate var. *maculata* as having leaves with a ciliolate apical portion and a lip which is either long- and narrowly clawed or with a narrowly cuneate base.

***Dichaea panamensis* Lindley** Gen. & Sp. Orch. (1833) 209; Kränzlin in Engler Pflanzenr. IV, 50 (Heft 83)(1923) 51.

Epithecia panamensis Schlechter in Orchis 9 (1915) 25.

Dichaeopsis panamensis Schlechter in Beih. Bot. Centralbl. 36, Abt. 2 (1918) 519.

This variable species, heretofore recorded only from Mexico and Central America to Panama, has recently been identified from Colombia and Peru.

The latter specimen consists of a caespitose plant of eight highly variable stems, the longest of which is about 24 cm. in length—longer than any before noted by me. The leaves, also, are longer than usual, being up to 4 cm. long. The blades seem to be indistinctly, if at all, glaucous (as in the usual form). The flower, however, is much smaller than usual, but has segments closely similar to those of the typical plant.

PERU: Junín, east of Quimiri Bridge, near La Merced, at 800–1300 meters altitude, epiphyte in dense forest, sepals green, June 1–3, 1929, *E.P. Killip & A.C. Smith 25412* (U.S. Nat. Herb. No. 1359631).

Campylocentrum Ulaei Cogn. var. peruvianum
C. Schweinfurth var. nov.

Herba foliis minoribus, labello paullo diverso atque calcar majore U-formi a specie differt.

Plant small, slender, epiphytic. Stem slender, about 4.5 cm. long in the specimen, entirely concealed by loose conduplicate leaf-sheaths, lightly arcuate, producing below elongate fibrous roots. Leaves several, distichous, widespreading, small, narrowly lanceolate to narrowly elliptic-oblong, narrowed to a minutely and commonly obliquely bilobed apex, slightly contracted to a sessile base, up to 2.1 cm. long and 5 mm. wide. Inflorescences lateral, racemose, much exceeding the leaves, puncturing the middle of the leaf-sheaths, densely many-flowered, up to about 6.5 cm. long, glabrous; peduncle filiform, up to 1.6 cm. long. Flowers very small, with membranaceous subparallel segments. Dorsal sepal linear-lanceolate, subacute, 1-nerved, about 2.3 mm. long and 0.8 mm. wide. Lateral sepals subequalling the dorsal sepal, narrowly and obliquely triangular-lanceolate, acute or acuminate

with a complicate apex. Petals triangular-lanceolate, acute or acuminate, slightly shorter than the sepals. Lip conspicuously spurred; lamina tubular-involute in natural position, ovate-lanceolate in outline when expanded, about 2 mm. long, deeply 3-lobed below the middle; lateral lobes relatively short, obliquely subquadrate and slightly dilated above with an obtuse outer tip; mid-lobe much protuberant, narrowly lanceolate-triangular, long-acuminate; spur relatively large, U-shaped when viewed from the side, slender and cylindric below, laterally flattened and dilated above, about 1.3 mm. long from the rounded apex to the base of the curve. Column minute. Ovary glabrous.

This plant is very similar to typical *Campylocentrum Ulaei* Cogn., but differs in having much smaller leaves, a differently proportioned lip and a larger U-shaped spur.

PERU: Junín, Chanchamayo Valley, at 1800 meters altitude, October "1924-1927," *Carlos Schunke 520* (TYPE in Herb. Field Mus. 571579).